

Spectral Transmission Profile

SpecPlate

The PHABIOC SpecPlate is engineered for high-performance spectrophotometric applications across the UV and visible range. Fabricated from cyclic olefin copolymer (COC), a material selected for its exceptional optical clarity, low autofluorescence, and superior UV transmission compared to standard polystyrene microplates, SpecPlate is particularly suited for demanding quantification workflows in biotech and pharmaceutical environments. To support method development and instrument qualification, this document provides measured transmission spectra of SpecPlate recorded under two baseline conditions: air (empty well) and ultrapure water blank. These data allow users to assess the optical behavior of the plate material and evaluate suitability for specific assay wavelengths, particularly in the UV range critical for nucleic acid and protein quantification.

Transmission spectra were recorded from 220 to 1000 nm using a Tecan Spark[®] microplate reader, with values representing the mean of 6 replicate wells. Measurements with air represent the intrinsic optical transparency of the plate material, while water-filled wells reflect typical assay conditions and include absorption contributions from the solvent by approximation. These data support assay design, wavelength selection, and sensitivity estimation, particularly in UV-critical applications such as nucleic acid and protein quantification.

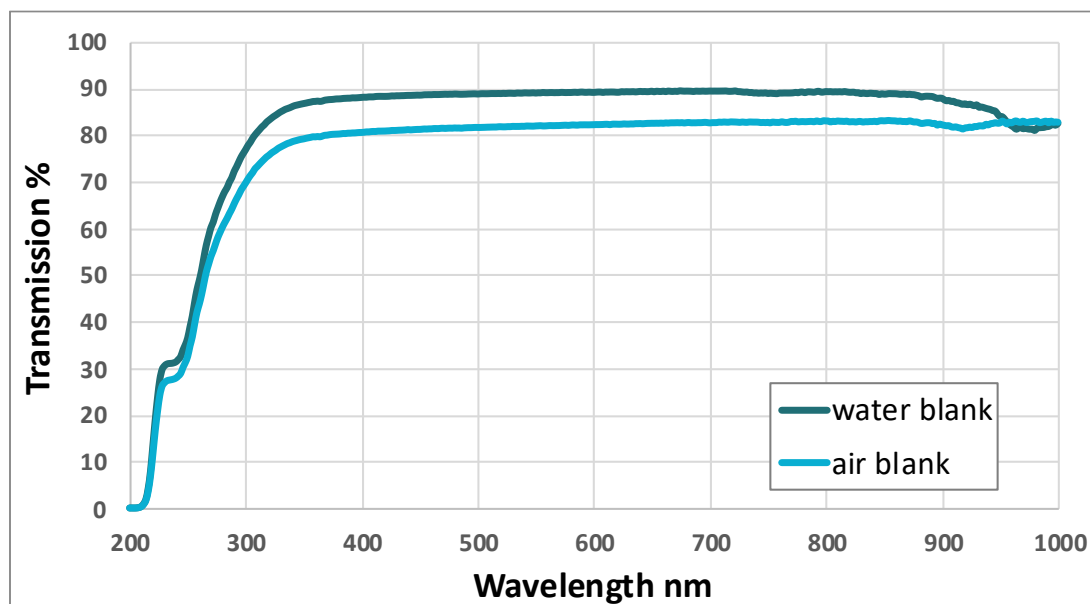


Figure 1 Transmission spectra of SpecPlate measured from 220 to 1000 nm under air-filled and water-filled conditions. The data illustrates the baseline optical transparency of the plate material and the impact of water absorption across the UV/Vis range.

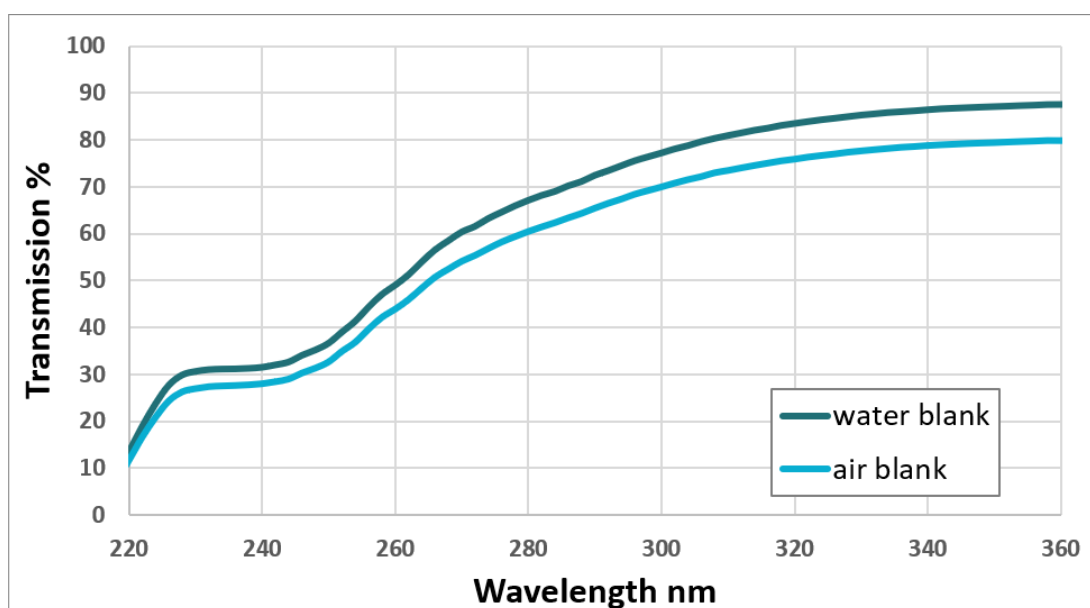


Figure 2 UV transmission detail (220–360 nm). Enlarged view of the spectral region most critical for nucleic acid quantification (A_{260}), protein analysis (A_{280}), and low-UV applications.

Table 1 SpecPlate transmission at selected wavelengths relevant to specific applications.

	Wavelength nm	Application	Transmission %
air	220	UV cutoff/solvent characterization	12%
	260	DNA / RNA quantification (A_{260})	44%
	280	Protein quantification (A_{280})	60%
	320	Turbidity / scatter reference	76%
	492	Orange G reference	82%
	562	BCA Assay	82%
	600	Bacterial growth (OD_{600})	82%
water	220	UV cutoff/solvent characterization	19%
	260	DNA / RNA quantification (A_{260})	49%
	280	Protein quantification (A_{280})	67%
	320	Turbidity / scatter reference	83%
	492	Orange G reference	89%
	562	BCA Assay	89%
	600	Bacterial growth (OD_{600})	89%

Custom Wavelength Inquiry

Transmission data for wavelengths not listed in this datasheet are available upon request. Please contact PHABIOC at info@phabioc.com to obtain transmission values for your specific application wavelength.

Further Product Information

For complete technical specifications, well geometry, volume ranges, compatibility data, and ordering information, please refer to the **SpecPlate Product Datasheet**, available on the PHABIOC website:

https://phabioc.com/wp-content/uploads/2026/06/Datasheet_SpecPlate_PHABIOC.pdf

This document is intended as a supplementary optical reference and should be read in conjunction with the main datasheet.

DISCLAIMER: The description of a certain product can only be considered as guidance, because its performance ultimately depends on what the product is used for. Very often performance studies are indispensable.

Datasheet subject to change without notice!

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